

FIG.1

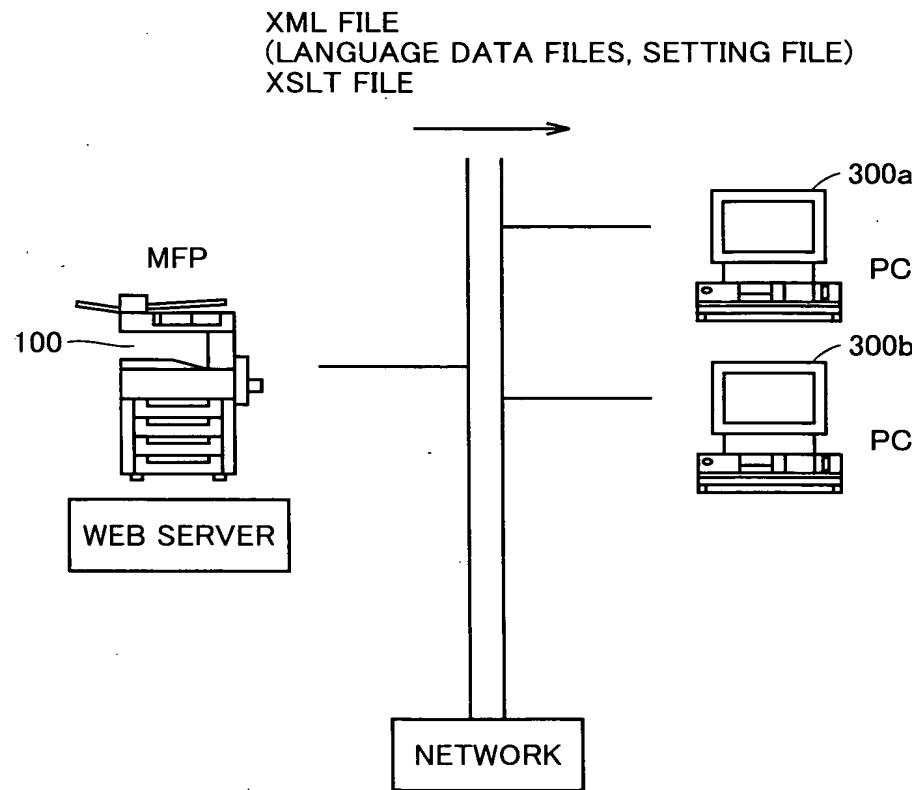


FIG.2

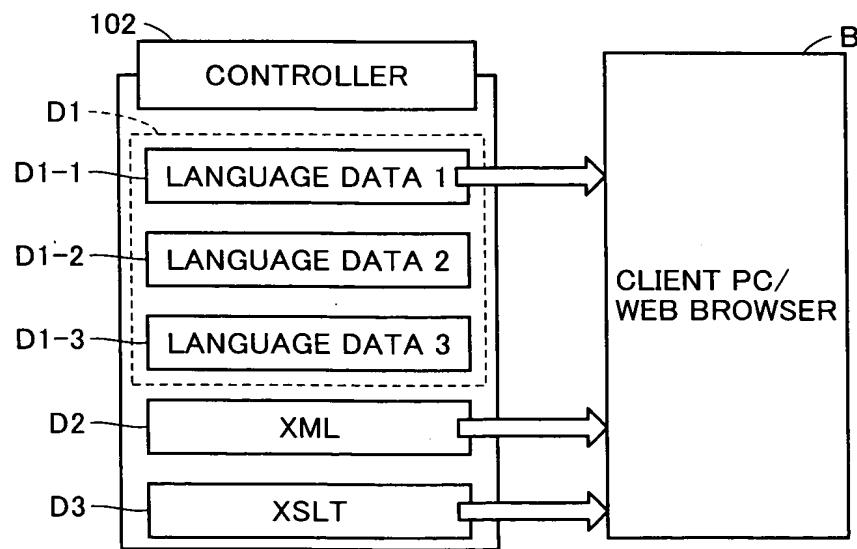


FIG.3

100

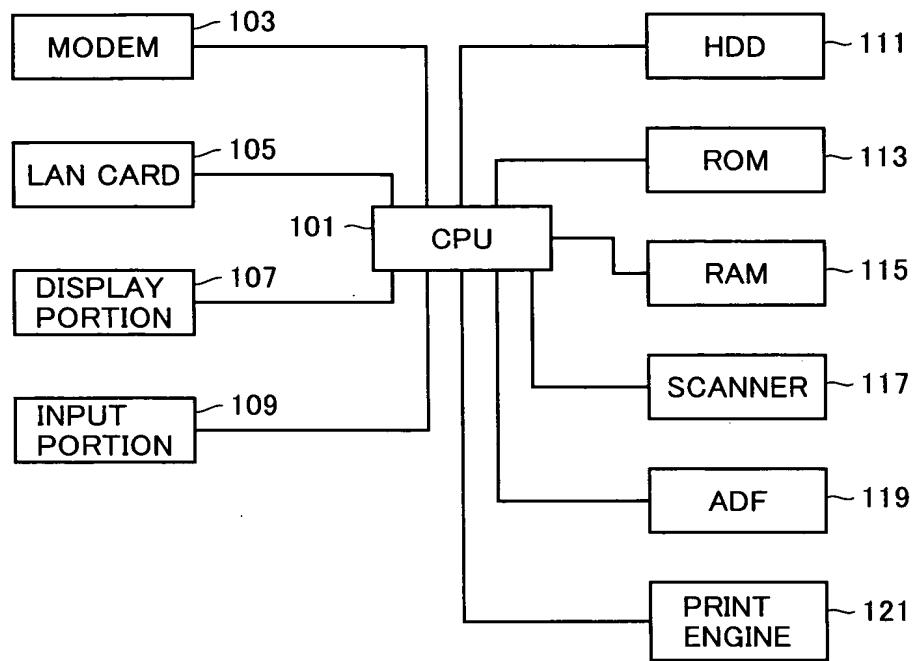


FIG.4

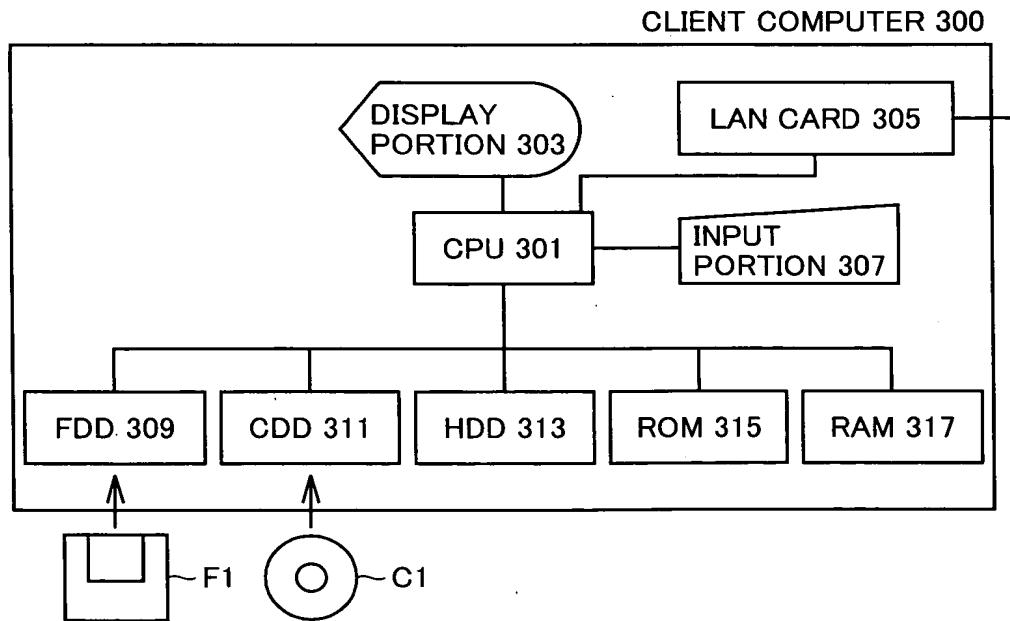


FIG.5

XML1(English.xml)

```
<MFP>
<Title>Print</Title>
<Select>
<item>Enable</item>
<item>Disable</item>
</Select>
</MFP>
```

FIG.6

XML2(Japanese.xml)

```
<MFP>
<Title>プリント</Title>
<Select>
<item>有効</item>
<item>無効</item>
</Select>
</MFP>
```

FIG. 7

```
XML3(Language.xml)
<?xml version="1.0"?
<?xml-stylesheet href="language.xsl" type="text/xsl"?>
<MFP>
<Set>1</Set>
<Language>English.xml</Language>
<Language>Japanese.xml</Language>
</MFP>
```

WHEN ENGLIGH IS SELECTED,
SET TO 1, AND WHEN JAPANESE
IS SELECTED, SET TO 2.

FIG.8

```
XSLT(Language.xsl)
<?xml version="1.0" encoding="UTF-8"?>
<xslstylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">
<xsl:output method="html" encoding="UTF-8" />
<xsl:variable name="Language">
<xsl:value-of select=
"document('Language.xml')//Language[position()=number(/MFP/Set)]"/> (1)
</xsl:variable>
<HTML>
<BODY>
<TABLE>
<TR>
<TD>NetWare Print</TD>
<TD>
<select size="1">
<xsl:for-each select="document($Language)//MFP/item"> (2)
<option>
<xsl:value-of select="" />
</option>
</xsl:for-each>
</select>
</TD>
</TR>
</TABLE>
</BODY>
</xslstylesheet>
```

LANGUAGE FILE OF THE CURRENTLY SET
LANGUAGE IS AUTOMATICALLY SELECTED.

FIG.9

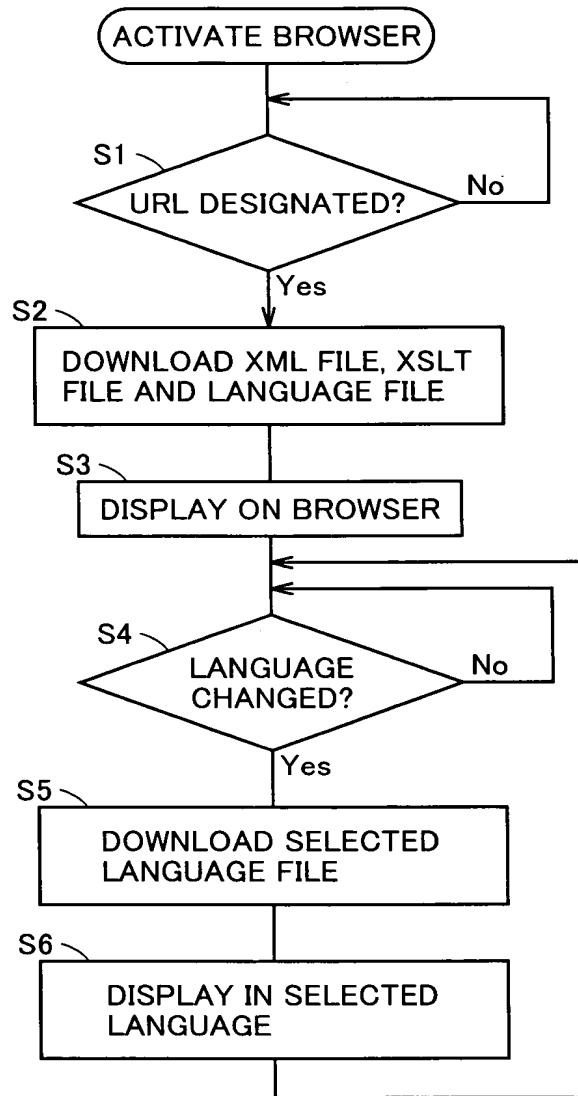


FIG.10

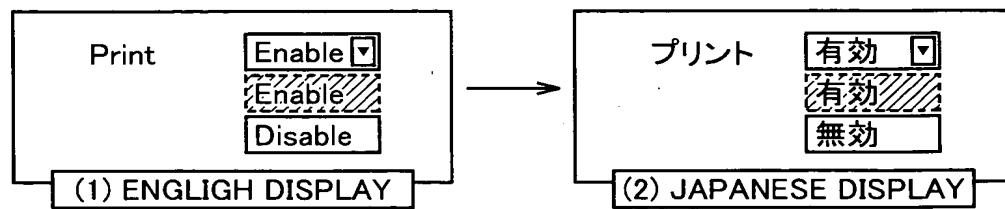


FIG.11

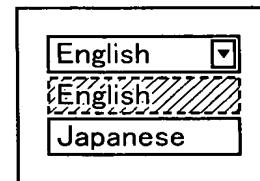


FIG.12

```
<TABLE>
  <TR>
    <TD>Language</TD>
    <TD>
      <select size="1">
        <xsl:for-each select="document('language.xml')/MFP/Language">
          <option>
            <xsl:value-of select="substring-before(.,'xml')"/>
          </option>
        </xsl:for-each>
      </select>
    </TD>
  </TR>
</TABLE>
```

STRING OF CHARACTERS
PRECEDING ".xml" OF DATA
AT <Language> TAG IS OUTPUT

FIG.13

Folder1.xml (INFORMATION OF THE FILE STORED IN Folder1)

```
<MFP>
<File>
  <FileName>Jane.tif</FileName>
  <ReceiveTime>2003/7/4 9:30</ReceiveTime>
  <FileSize>255</FileSize>
</File>
<File>
  <FileName>Map.jpg</FileName>
  <ReceiveTime>2003/7/5 14:00</ReceiveTime>
  <FileSize>300</FileSize>
</MFP>
```

FIG.14

Folder2.xml (INFORMATION OF THE FILE STORED IN Folder2)

```
<MFP>
<File>
  <FileName>test.tif</FileName>
  <ReceiveTime>2003/7/3 10:00</ReceiveTime>
  <FileSize>255</FileSize>
</File>
<File>
  <FileName>example.jpg</FileName>
  <ReceiveTime>2003/7/6 13:00</ReceiveTime>
  <FileSize>300</FileSize>
</MFP>
```

FIG.15

BoxList.xml

```
<?xml version="1.0">
<?xml-stylesheet href="BoxList.xsl" type="text/xsl"?>
<MFP>
<Set>1</Set>
<Box>Folder1.xml</Box>
<Box>Folder2.xml</Box>
</MFP>
```

FIG.16

STYLE SHEET (BoxList.xsl)

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform version="1.0">
<xsl:output method="html" encoding="UTF-8"/>
<xsl:variable name="Box">
<xsl:value-of select=
"document(BoxList.xml)//Box[position()=number(/MFP/Set)]"/>
</xsl:variable>
<HTML>
<BODY>
<TABLE id="BoxList" style="display:block">
<TR><TD>Folder1</TD></TR>
<TR><TD>Folder2</TD></TR>
} * 1
</TABLE>
<TABLE id="BoxInfo" style="display:none">
<TR>
<TD>File Name</TD>
<TD>Received Time</TD>
<TD>File Size</TD>
</TR>
<xsl:for-each select="document($Box)/MFP/File">
<TR>
<TD><xsl:value-of select="FileName"/></TD>
<TD><xsl:value-of select="ReceivedTime"/></TD>
<TD><xsl:value-of select="FileSize"/></TD>
</TR>
</xsl:for-each>
</TABLE>
</BODY>
</xsl:stylesheet>
```

FIG.17

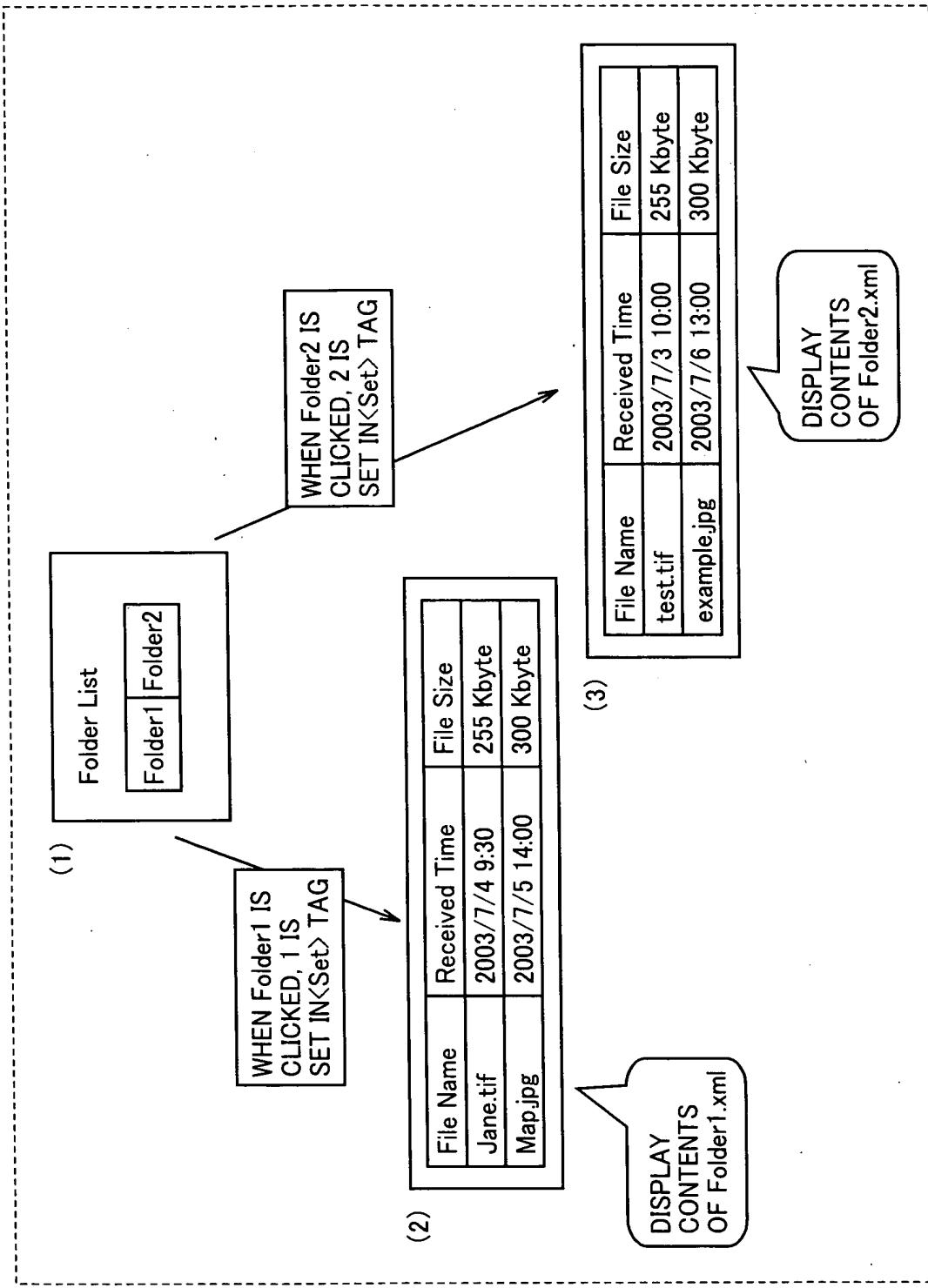
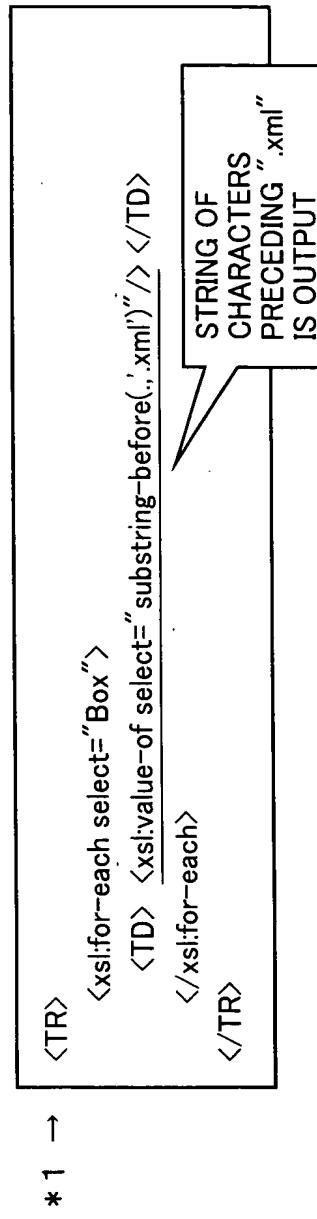


FIG.18



APPLN. FILING DATE: MARCH 24, 2004
TITLE: DATA DISPLAY SYSTEM FOR EFFICIENT DISPLAY
USING XML
INVENTOR(s): AKEMI KURUMATANI
ATTORNEY DOCKET NO.: 009683-502 SHEET 13 OF 25

FIG.19

ONE EXAMPLE (BoxList2.xml)

```
<?xml version="1.0"?>
<?xml-stylesheet href="BoxList2.xsl" type="text/xsl"?>
<MFP>
  <Set>1</Set>
  <Folder>
    <Name>Mike</Name>
    <Box>Folder1.xml</Box>
  </Folder>
  <Folder>
    <Name>Jane</Name>
    <Box>Folder2.xml</Box>
  </Folder>
</MFP>
```

FIG.20

STYLE SHEET (BoxList2.xsl)

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform version="1.0">
<xsl:output method="html" encoding="UTF-8"/>
<xsl:variable name="Box">
  <xsl:value-of select=
    "document(BoxList.xml)//Box[position()=number(/MFP/Set)]"/>
</xsl:variable>
<HTML>
<BODY>
<TABLE id="BoxList" style="display:block">
  <xsl:for-each select="Folder">
    <TR><TD><xsl:value-of select="Name"/></TD></TR>
  </xsl:for-each>
</TABLE>
<TABLE id="BoxInfo" style="display:none">
  <TR>
    <TD>File Name</TD>
    <TD>Received Time</TD>
    <TD>File Size</TD>
  </TR>
  <xsl:for-each select="document($Box)/MFP/File">
    <TR>
      <TD><xsl:value-of select="FileName"/></TD>
      <TD><xsl:value-of select="ReceivedTime"/></TD>
      <TD><xsl:value-of select="FileSize"/></TD>
    </TR>
  </xsl:for-each>
</TABLE>
</BODY>
</xsl:stylesheet>
```

FIG.21

EXEMPLARY DISPLAY

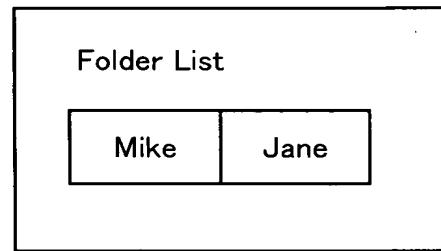


FIG.22

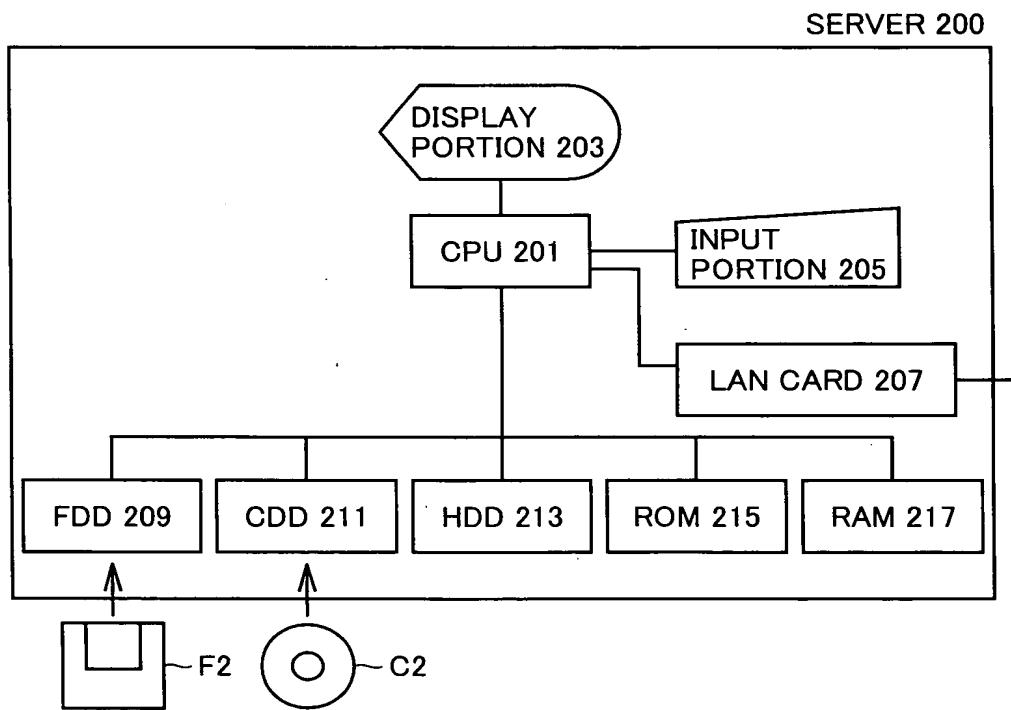


FIG.23

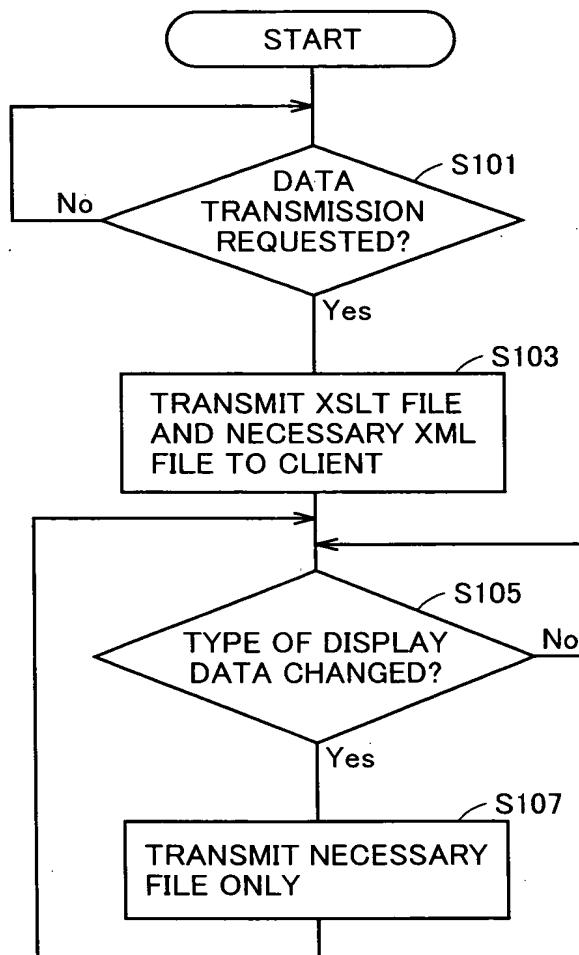


FIG.24

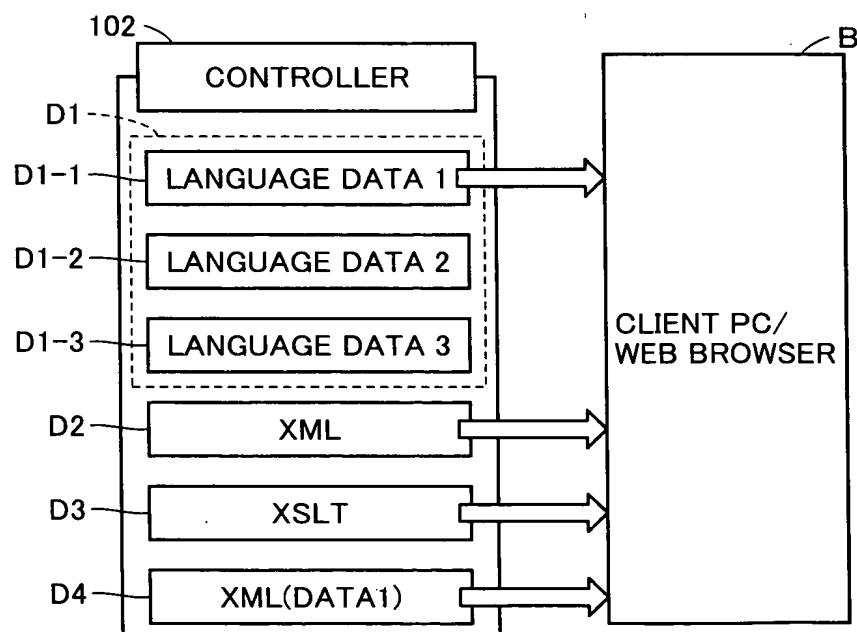


FIG.25

XML1(English.xml)

```
<MFP>
  <Print>Print</Print>
  <Status>
    <Item data="Ready">Ready</Item>
    <Item data="Error">Error</Item>
  </Status>
  <Select>
    <Item data="Enable">Enable</item>
    <Item data="Disable">Disable</item>
  </Select>
</MFP>
```

FIG.26

XML2(Japanese.xml)

```
<MFP>
  <Print>プリント</Print>
  <Status>
    <Item data="Ready">レディ</Item>
    <Item data="Error">エラー</Item>
  </Status>
  <Select>
    <Item data="Enable">有効 </Item>
    <Item data="Disable">無効</Item>
  </Select>
</MFP>
```

FIG.27

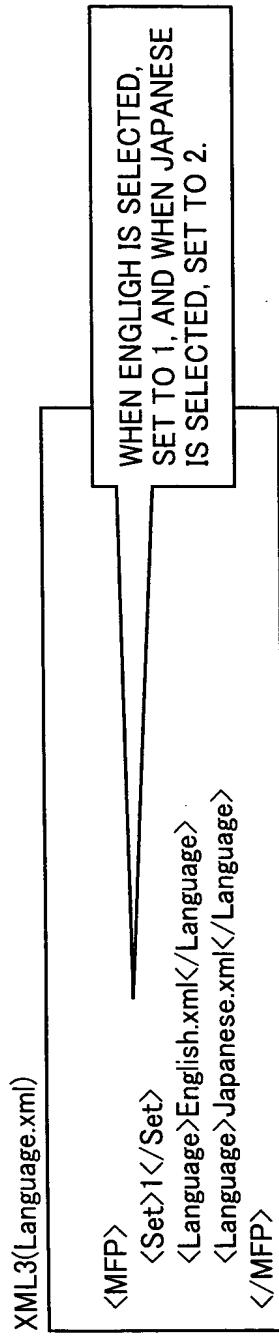


FIG.28

DATA1(data.xml)

```
<?xml version="1.0"?>
<?xml-stylesheet href="data.xsl" type="text/xsl"?>
<MFP>
  <Print>
    <Status>Ready</Status>
    <Function>Enable</Function>
  </Print>
</MFP>
```

FIG.29

XSLT(data.xsl)

```

<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform version="1.0">
<xsl:output method="html" encoding="UTF-8"/>
<xsl:variable name="Language">
  <xsl:value-of select=
    "document('Language.xml')//Language[position()=number(/MFP/Set)]"/> ← (1)
</xsl:variable>
<HTML>
<BODY>
  <TABLE>
    <TR>
      <TD>
        <xsl:value-of select="document($Language)//MFP/Print"/> ← (2)
      </TD>
    </TR>
    <TR>
      <TD>
        <xsl:variable name="X"><xsl:value-of select="MFP/Print/Status"/></xsl:variable> ← (3)
        <xsl:variable-of select="document($Language)//MFP/Status/Item[@data=$X]"/> ← (4)
      </TD>
      <TD>
        DISPLAY CONTENTS OF Item TAG
        OF WHICH ATTRIBUTE data IS VARIABLE X
      </TD>
    <TR> ← (5) →
      <xsl:variable name="Y"><xsl:value-of select="MFP/Print/Function"/></xsl:variable>
      <select size="1">
        <xsl:for-each select="document($Language)//MFP>Select/Item">
          <option>
            <xsl:if test="@data=$Y">
              <xsl:attribute name="selected">selected</xsl:attribute>
            </xsl:if>
            <xsl:value-of select="."/>
          </option>
        </xsl:for-each>
      </select>
    </TD>
  </TR>
</TABLE>
</BODY>
</xsl:stylesheet>

```

LANGUAGE FILE OF THE CURRENTLY SET LANGUAGE IS AUTOMATICALLY SELECTED.

"Ready" IS STORED IN VARIABLE X

DISPLAY CONTENTS OF Item TAG OF WHICH ATTRIBUTE data IS VARIABLE X

LOOK VALUE OF Function TAG OF DATA1, AND PRESENT PRESELECTED DISPLAY ON SELECT BOX.

(6)

FIG.30

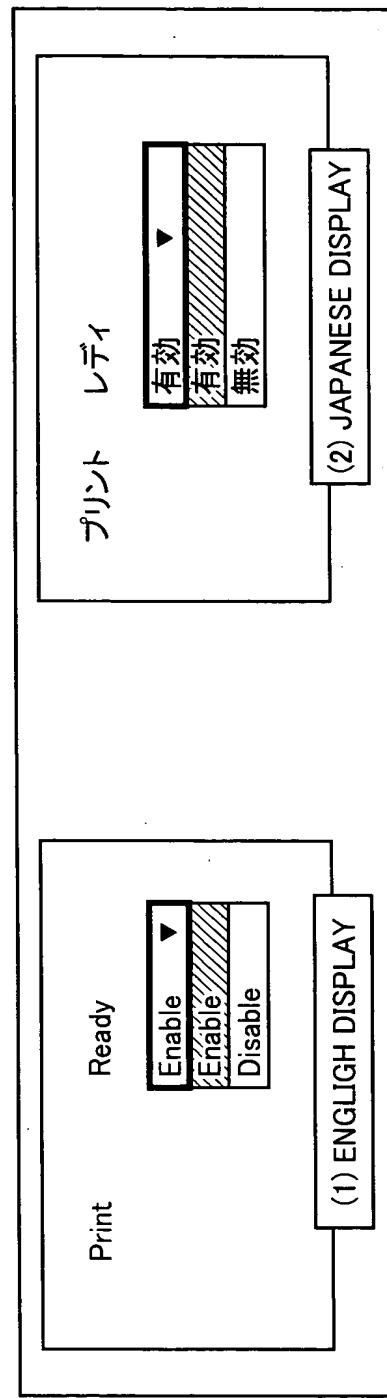


FIG.31

XML1(User.xml)

```
<MFP>
  <Check>
    <ErrorItem>
      <Item name="IPAdd">IP address</Item>
      <Item name="SubnetMask">Subnet Mask</Item>
    </ErrorItem>
    <Message>
      <Item name="Ok_1">Complete</Item>
      <Item name="Str_1">Not input yet</Item>
      <Item name="Str_2">Number of characters too large</Item>
      <Item name="Str_3">Input character not correct</Item>
      <Item name="Err_2">Internal error</Item>
    </Message>
  </Check>
</MFP>
```

FIG.32

XML2(Admin.xml)

```
<MFP>
  <Check>
    <ErrorItem>
      <Item name="IPAdd">IP address</Item>
      <Item name="SubnetMask">Subnet Mask</Item>
    </ErrorItem>
    <Message>
      <Item name="Ok_1">Complete</Item>
      <Item name="Str_1">Not input yet. Input absolutely necessary.</Item>
      <Item name="Str_2">Number of input characters exceeds available number.</Item>
      <Item name="Str_3">
        Characters not settable included. Only numerals and period can be input.
      </Item>
      <Item name="Err_2">
        Internal error occurred. Set again.
      </Item>
    </Message>
  </Check>
</MFP>
```

FIG.33

XML3(System.xml)

```
<MFP>
  <Set>1</Set>
  <Kind>User.xml</Kind>
  <Kind>Admin.xml</Kind>
</MFP>
```

FIG.34

DATA1(error.xml)

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="Error.xsl" type="text/xsl"?>
<MFP>
  <Message>
    <Item Code="Str_1">IPAdd</Item>
    <Item Code="Str_3">SubnetMask</Item>
  </Message>
</MFP>
```

FIG.35

```

XSLT(Error.xsl)

<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform version="1.0">
<xsl:output method="html" encoding="UTF-8"/>
<xsl:variable name="Display">
<xsl:value-of select=
"document('System.xml')//Kind[position()=number(/MFP/Set)]"/> ← (1)
</xsl:variable>

<HTML>
<BODY>
<table valign="top" width="510px" align="center">
<tr>
<th height="50px" align="left"><xsl:value-of select="$Fix/Error/Message" /></th>
</tr>
<xsl:for-each select="Message/Item">
<xsl:variable name="Me"><xsl:value-of select="" /></xsl:variable> } (2)
<STORE VALUE OF Item TAG OF !error.xml TO VARIABLE Me←
<xsl:variable name="Co"><xsl:value-of select="@Code" /></xsl:variable> ← (3)
<xsl:variable name="Co"><xsl:value-of select="!error.xml TO VARIABLE Co→
<STORE ATTRIBUTE Code VALUE OF Item TAG OF !error.xml TO VARIABLE Co→
<tr>
<td width="210px">
<4> → <xsl:value-of select="document($Display)/MFP/Check/ErrorItem/Item[@name=$Me]" /></td>
<td width="300px">
<5> → <xsl:value-of select="document($Display)/MFP/Check/Message/Item[@name=$Co]" /></td>
</tr>
</xsl:for-each>
</table>

```

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FIG.36

IP address	Not input yet
Subnet mask	Input character not correct